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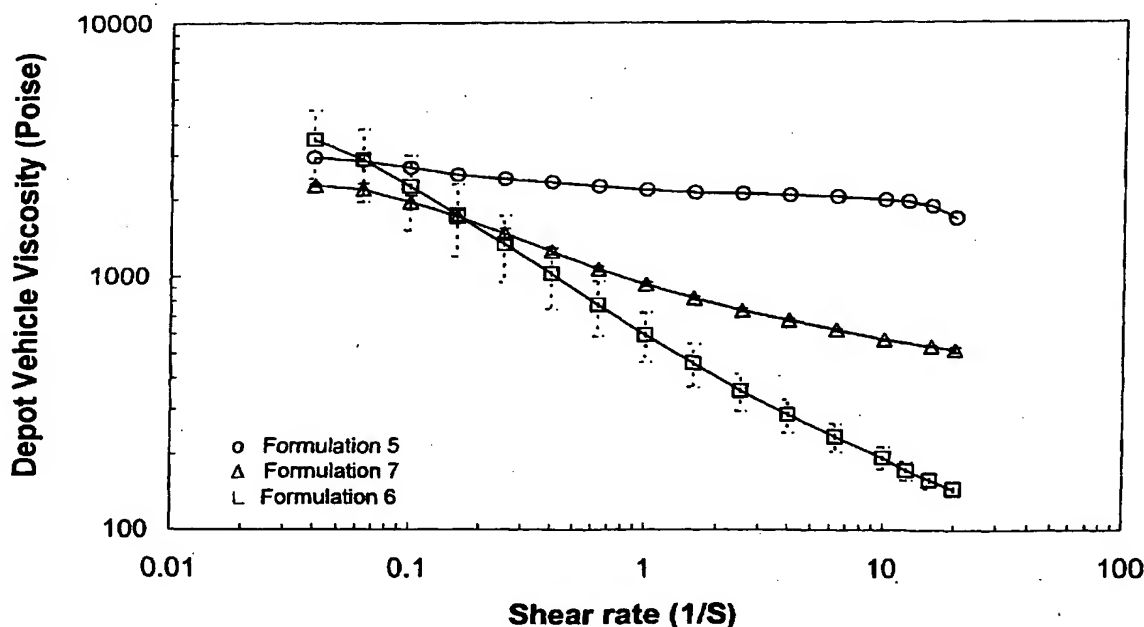
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[Continued on next page]

(54) Title: INJECTABLE DEPOT COMPOSITIONS AND USES THEREOF



(57) Abstract: Injectable depot compositions are provided that include a bioerodible, biocompatible polymer, an aromatic alcohol having miscibility in water of less than or equal to 7 wt.% at 25°C, in an amount effective to plasticize the polymer and form a gel therewith, and a beneficial agent. The composition may additionally contain an ester of an aromatic acid, or an aromatic ketone. The compositions are readily implanted beneath a patient's body surface by injection, as the aromatic alcohol not only facilitates solubilization of the polymer, but also acts as a thixotropic agent, substantially increasing the shear thinning behavior of the composition.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/36715

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 93 24150 A (ZENECA LTD) 9 December 1993 (1993-12-09) page 26, paragraph 2 -page 29, paragraph 1 examples 16-20 claims	1-87
X	WO 95 13799 A (MEDISORB TECHNOLOGIES INTERNAT) 26 May 1995 (1995-05-26) example 1	1-8
X	WO 98 27963 A (ALZA CORP) 2 July 1998 (1998-07-02) example 2 & US 613 200 A cited in the application	1-87
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

23 June 2003

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03/07/2003

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/36715

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 45-87 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the composition.

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/US 02/36715

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9324150	A	09-12-1993	AT 407702 B	25-05-2001
			AT 901993 A	15-10-2000
			AU 682310 B2	02-10-1997
			AU 4084793 A	30-12-1993
			BE 1006143 A3	24-05-1994
			CA 2136751 A1	09-12-1993
			CH 688911 A5	29-05-1998
			CH 690491 A5	29-09-2000
			CZ 9402937 A3	15-03-1995
			DE 4392401 T0	24-07-1997
			DK 135394 A	28-11-1994
			ES 2107357 A1	16-11-1997
			FI 945553 A	25-01-1995
			FR 2691631 A1	03-12-1993
			WO 9324150 A1	09-12-1993
			GB 2282066 A , B	29-03-1995
			GR 1001550 B	29-04-1994
			HK 133097 A	24-10-1997
			HU 70177 A2	28-09-1995
			IE 930358 A1	01-12-1993
			IL 105710 A	19-03-2001
			IT MI931099 A1	28-12-1993
			JP 8501064 T	06-02-1996
			LU 88559 A1	05-04-1995
			MC 2330 A	31-05-1994
			NL 9320034 T	03-04-1995
			NO 944535 A	25-01-1995
			NZ 252268 A	20-12-1996
			RU 2152225 C1	10-07-2000
			SE 501970 C2	03-07-1995
			SE 9404115 A	28-11-1994
			SG 44645 A1	19-12-1997
			SK 143494 A3	11-07-1995
			US 6034175 A	07-03-2000
			US 5889110 A	30-03-1999
			US 2002198315 A1	26-12-2002
			ZA 9303358 A	15-09-1994
WO 9513799	A	26-05-1995	AT 212830 T	15-02-2002
			AU 684324 B2	11-12-1997
			AU 1101095 A	06-06-1995
			AU 697887 B2	22-10-1998
			AU 3683197 A	20-11-1997
			CA 2176716 A1	26-05-1995
			DE 69429820 D1	21-03-2002
			DE 69429820 T2	14-11-2002
			DK 729353 T3	27-05-2002
			EP 0729353 A1	04-09-1996
			EP 0998917 A1	10-05-2000
			ES 2172574 T3	01-10-2002
			JP 9505308 T	27-05-1997
			PT 729353 T	31-07-2002
			WO 9513799 A1	26-05-1995
			US 5654008 A	05-08-1997
			US 5650173 A	22-07-1997
WO 9827963	A	02-07-1998	AT 203157 T	15-08-2001
			AU 5609798 A	17-07-1998

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/36715

BEST AVAILABLE COPY

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9827963 A		AU 739469 B2	11-10-2001
		AU 5615498 A	17-07-1998
		DE 69705746 D1	23-08-2001
		DE 69705746 T2	31-10-2001
		DK 949905 T3	22-10-2001
		EP 0949905 A2	20-10-1999
		EP 0959873 A2	01-12-1999
		ES 2158611 T3	01-09-2001
		GR 3036599 T3	31-12-2001
		HK 1020009 A1	02-11-2001
		JP 2002512597 T	23-04-2002
		JP 2001509146 T	10-07-2001
		NZ 335851 A	23-02-2001
		PT 949905 T	28-12-2001
		WO 9827962 A2	02-07-1998
		WO 9827963 A2	02-07-1998
		US 2003044467 A1	06-03-2003
		US 6468961 B1	22-10-2002
		US 2002034532 A1	21-03-2002
WO 0074650 A	14-12-2000	US 6331311 B1	18-12-2001
		US 6130200 A	10-10-2000
		AU 5462900 A	28-12-2000
		CA 2372994 A1	14-12-2000
		CZ 20014338 A3	13-03-2002
		EP 1183010 A2	06-03-2002
		HU 0201626 A2	28-12-2002
WO 02067991 A	06-09-2002	JP 2003501375 T	14-01-2003
		NO 20015888 A	31-01-2002
		WO 0074650 A2	14-12-2000
		US 2002173552 A1	21-11-2002
		WO 02067991 A1	06-09-2002

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